

Professional
Installation

Designed by the pros for the pros

There are a lot of choices when it comes to buying a thermostat, but only one combines 100 years of HVAC experience and the latest connected home technology to empower your customers to take control of their comfort from anywhere. We proudly connect you to a professional-grade thermostat that you can offer your customers with confidence and that will keep you connected with them even after the initial install.

Need help?

Visit **sensihelp.com** for around-the-clock access to support articles, instructional downloads and comprehensive support videos. Our highly trained Sensi Support Team is available seven days a week.

 **1.888.605.7131**

Easy to install and connect

Sensi is designed to install like a standard thermostat. It gives you the flexibility to connect to your Z-Wave® smart home hub.

HVAC SYSTEM COMPATIBILITY

SYSTEM TYPE	COMPATIBILITY	MODIFICATIONS
Conventional heating and cooling • Gas furnace • Air conditioner • Electric furnace • Boiler	Yes	
Heat only • Gas furnace • Electric furnace • Boiler	Yes	Common wire required
Cool only • Air conditioner	Yes	Common wire required
Heat pump	Yes	Common wire required
Communicating proprietary systems	No	Needs standard HVAC wiring
Line voltage	No	Requires low voltage (20–30VAC)
Millivolt systems	No	Requires 20–30VAC

What's in the box?

- Sensi Lite smart thermostat – Z-Wave
- Screws and anchors
- Welcome guide
- Wire labels
- (2) AAA batteries

Things you'll need:

- The homeowner's compatible iOS or Android device with the smart hub app
- Your smart hub network name and password
- Medium Phillips screwdriver
- Installation QR code (on back of welcome guide and thermostat)

Installation

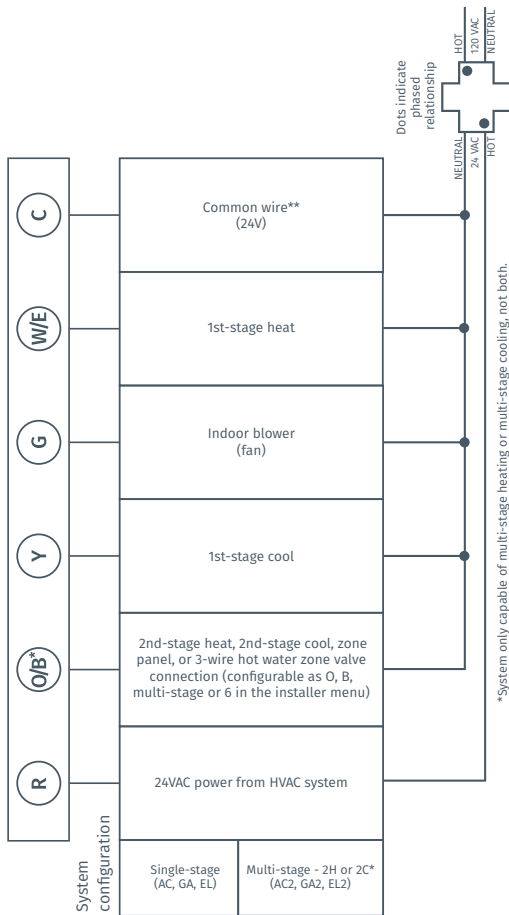
Install the Sensi Lite smart thermostat - Z-Wave by referring to these terminal definitions, cross references and wiring diagrams as needed:

SENSI THERMOSTAT	CONVENTIONAL SYSTEM CONNECTION	HEAT PUMP SYSTEM CONNECTION
R	24VAC power from HVAC system	
O/B/*	2nd-stage heating or 2nd-stage cooling, zone panel or 3-wire zone valve connection (configurable as O, B, Multi-stage or 6 in the installer menu)	Heat pump changeover (reversing valve) connection (configure as O or B in the installer menu)
Y	1st-stage cool	1st-stage heat and cool (compressor)
G	Indoor blower (fan)	Indoor blower (fan)
W/E	1st-stage heat	1st-stage auxiliary/emergency heat (2nd-stage heat)
C	Common wire, 24V	Common wire, 24V

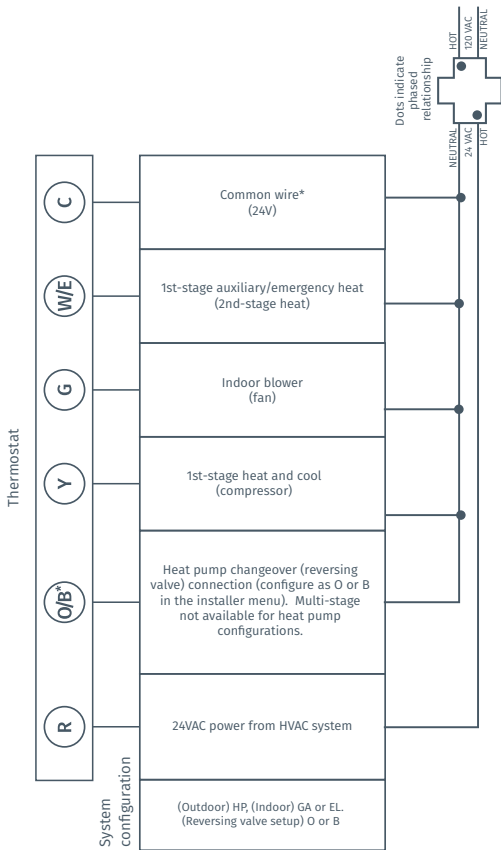
Two transformer systems (separate RC and RH wires) are not compatible

CONVENTIONAL SINGLE-STAGE OR MULTI-STAGE SYSTEMS (NO HEAT PUMP)

Thermostat



HEAT PUMP SYSTEMS



*Common connection required on heat-only, cool-only or heat pump systems.

Configuration

Configure the thermostat to the appropriate system type. To get into the configuration menu, press and hold the **three dots** on the thermostat for 8 seconds. Navigate options within a step by tapping the **up/down arrows**. Confirm selection and move to the next step by tapping the **three dots**.

Step 1: Select your outdoor equipment

- AC (Air condition) DEFAULT
- HP (Heat pump)
- – (None)

Step 2: Select your indoor equipment

- EL (Electric) DEFAULT
- GA (Gas)
- Fn (Fan)

Step 3: Select additional configuration for O/B* terminal

- 2H (2-stage heating) DEFAULT
- 6 (3-zone valve)
- 2C (2-stage cooling)
- O (Reverse Valve Position – Cool)
- B (Reverse Valve Position – Heat)
- – (None)

Step 4: Select fan settings

- AU (Auto)
- ON (Fan runs continuously)

Step 5: Select temperature unit

- °F (Fahrenheit)
- °C (Celsius)

Note: Unit change from °F to °C is provided for user convenience, and affects the display temperature on the thermostat only. The thermostat handles all Z-Wave communications in °F.

Step 6: Press and hold the **three dots** for four seconds to exit the menu.

Refer to these menu options as needed:

CONFIGURATION MENU ITEMS REFERENCE		
Menu item	Description	Options
Outdoor Equipment	Select AC or Heat Pump equipment	AC/HP/--
Indoor Equipment	Select whether the equipment is an electric or gas furnace, or fan-only. Set this to EL for single-stage electric for GA single-stage gas systems or FN for fan only systems	GA/FN/EL
Reversing Valve or Multistage Position	When configured for O, the reversing valve is energized in Cooling. This will cover most applications. Some manufacturers, such as Rheem or Rhudd, use the B terminal, which would energize in Heating. For three-wire zone hydronic systems set this to 6.	O/B/2H/2C/6/--
Multistage Equipment	When configured for 2C, second-stage cooling is energized. When configured for 2H, second-stage heating is energized.	2H/2C/6/--

Entering Inclusion Mode:

To add the thermostat to the hub

- 1 Upon boot up, scan the QR code (located on welcome card and back of thermostat) or enter pin.
- 2 Hold the **three dots** button for 4 seconds to enter the inclusion mode screen.
- 3 Toggle the radio from “OFF” to “ON” using either the **up** or **down** buttons. Press the **three dots** button to confirm.
- 4 Thermostat enters inclusion mode, connects to hub

Entering Exclusion Mode:

To remove the thermostat from the hub

- 1 Hold the **three dots** button for 4 seconds to enter homeowner menu.
- 2 Press **three dots** button to cycle through screens to get to exclusion screen (third screen in the menu).
- 3 Toggle radio off, from “ON” to “OFF” icon using the **up** or **down** buttons. Press menu button.
- 4 Thermostat enters exclusion mode, disconnects from hub.

Note: Inclusion mode will time out 2 minutes after initiated

Factory Reset

To perform a factory reset, hold all three buttons (**3 dots, up, down**) until all segments on the LCD turn on. Factory reset will clear all network credentials. Please note that the thermostat credentials will need cleared from the hub before re-connecting.

Note: Please use this procedure only when the network's primary controller is missing or otherwise inoperable.

System testing

Once the thermostat is installed and properly configured, you can test the equipment using the following steps.

Cooling system

- Tap the **3 dots** on the thermostat until you select the cool mode (shown as ❄️).
- Tap ∨ and adjust the setting to 1° below the current room temperature. The blower should come on immediately on high speed, followed by cold air circulation. The word **ON** will also appear below the icons on the thermostat display. Note that there can be up to a 5-minute delay for this process.
- Tap ^ and adjust the setting to 1° above the current room temperature. The cooling system should stop operating.
- If you encounter any issues while testing the equipment, refer to the troubleshooting actions on page 16.

Heating system

- Tap the **3 dots** on the thermostat until you select the Heat mode (shown as ).
- Tap  on the thermostat and adjust the setting to 1° above the current room temperature. The heating system should begin to operate.
- For heat pumps with auxiliary, tap  and adjust the setting to 3° above the current room temperature. The auxiliary heat should begin to operate and the thermostat will indicate **AUX** on the screen.
- Press  and adjust the setting to 1° below the current room temperature. The heating system should stop operating and the word **ON** will disappear from the thermostat display.

Auxiliary system *(only for heat pumps with auxiliary)*

- Tap the **3 dots** on the thermostat until you select the AUX mode (shown as **AUX**). This bypasses the heat pump and runs auxiliary-only heat.
- Tap  and adjust the setting to 1° above the current room temperature. The auxiliary heating system should begin to operate. The word **ON** will also appear below the icons on the thermostat display.
- Tap  and adjust the setting to 1° below the current room temperature. The auxiliary heating system should stop operating and the word **ON** will disappear from the thermostat display.

SmartStart

SmartStart enabled products can be added into a Z-Wave network by scanning the Z-Wave QR Code present on the product with a controller providing SmartStart inclusion. No further action is required and the SmartStart product will be added automatically within 10 minutes of being switched on in the network vicinity.

Troubleshooting

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
No Heat/ No Cool/ No Fan (common problem)	1. Blown fuse or tripped circuit breaker 2. Furnace power switch to OFF 3. Furnace blower compartment door panel loose 4. Loose connection to thermostat or system	1. Replace fuse or reset breaker. 2. Turn switch to ON. 3. Replace door panel in proper position to engage safety interlock or door switch. 4. Tighten connections.
No Heat	1. Thermostat not set to Heat 2. Loose connection to thermostat or system 3. Heating system requires service or thermostat requires replacement	1. Set thermostat to Heat. 2. Verify thermostat and system wires are securely attached. 3. Diagnostic: Set system mode to Heat and raise the setpoint above room temperature. Within five minutes the thermostat should make a soft click sound and the temperature display should turn on. This sound indicates that the thermostat is operating properly. If the thermostat does not click, try resetting it. If the thermostat does not click after being reset, contact your heating and cooling service person or place of purchase for a replacement. If the thermostat clicks, verify the heating system is operating correctly.
No Cool	1. Thermostat not set to Cool 2. Loose connection to thermostat or system 3. Cooling system requires service or thermostat requires replacement	1. Set thermostat to Cool. 2. Verify thermostat and system wires are securely attached. 3. Diagnostic: Set system mode to Cool and lower setpoint below room temperature. Same procedures as diagnostic for "No Heat" condition except set the thermostat to Cool and lower the setpoint below the room temperature. There may be up to a five minute delay before the thermostat clicks in Cooling if the AC Protection feature is on.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Heat, Cool or Fan Runs Constantly	Possible short in wiring, thermostat, heat, cool or fan system	Check each wire connection to verify they are not shorted or touching other wires. Try resetting the thermostat by pressing and holding all three buttons on the thermostat (up/down arrows + three dots).
Display is Blank	The AAA batteries might need to be replaced or you may need a common wire (c-wire)	Replace the AAA batteries on the back of thermostat or attach a common wire (c-wire).
Furnace (Air Conditioner) Cycles Too Fast or Slow	The location of the thermostat and/or the size of the heating system may be influencing the cycle rate	Digital thermostats provide precise control and cycle faster than older mechanical models. The system turns on and off more frequently, but runs for a shorter time.
"Call for Service" Appears on the screen	1. Heating or cooling system is not able to heat/cool the space to within 5 degrees of the setpoint within 2 hours 2. If "--" is displayed for the Room Temperature, a replacement thermostat is needed 3. None of the buttons operate on the thermostat	1. See corrective action for "No Heat" or "No Cool." 2. Replace thermostat. 3. Make sure keypad lockout is not turned on. If it's OFF, try resetting the thermostat. Reset: Turn the power to your system off, wait 5 seconds and turn it back on.

Command Class Support

The thermostat supports below command classes:

COMMAND CLASS NAME	ID (HEX)	VERSION	SECURITY TYPE	MANDATORY / OPTIONAL	DESCRIPTION
Z-Wave Plus® Info	0x5E	V2	None	Mandatory	Provides info about Z-Wave Plus features like role type, node type, etc.
Security 0 (S0)	0x98	V1	S0	Optional	Legacy security with shared network key; mainly for backward compatibility.
Security 2 (S2)	0x9F	V1	S2 Auth, S2 Unauth	Mandatory	Modern encryption using ECDH, DSK; required for SmartStart and secure inclusion.
Transport Service	0x55	V2	S0, S2	Mandatory	Supports segmentation and reassembly for large data frames.
Supervision	0x6C	V1	S0, S2	Mandatory	Provides status for commands (success, fail, in-progress).
Association	0x85	V2	S0, S2	Mandatory	Supports grouping of nodes for direct command forwarding.
Association Group Info	0x59	V3	S0, S2	Mandatory	Describes association groups and supported command lists.
Multi Channel Association	0x8E	V3	S0, S2	Optional	Enables association with specific endpoints of multichannel devices.
Battery	0x80	V1	S0, S2	Mandatory (if battery-powered)	Reports battery level status

COMMAND CLASS NAME	ID (HEX)	VERSION	SECURITY TYPE	MANDATORY / OPTIONAL	DESCRIPTION
Thermostat Fan Mode	0x44	V5	S0, S2	Mandatory	Reports/controls thermostat fan modes (Auto, On).
Thermostat Mode	0x40	V3	S0, S2	Mandatory	Controls HVAC operating mode (Heat, Cool, Auto, Off).
Thermostat Setpoint	0x43	V3	S0, S2	Mandatory	Sets/reports target temperature setpoints.
Device Reset Locally	0x5A	V1	None	Mandatory	Notifies controller when factory reset is performed locally.
Indicator	0x87	V3	S0, S2	Optional	Controls display indicator for status feedback.
Manufacturer Specific	0x72	V2	None / S0 / S2	Mandatory	Reports Manufacturer ID, Product Type ID, and Product ID.
Multilevel Sensor	0x31	V11	S0, S2	Optional	Reports sensor data (temperature, humidity, etc.).
Powerlevel	0x73	V1	None	Optional	Used for RF diagnostics; controls RF power level settings.
Version	0x86	V3	S0, S2	Mandatory	Reports firmware and hardware version information
Basic	0x20	V2	S0, S2	Optional	Provides simple on/off/status control for compatibility.
Firmware Update Meta Data	0x7A	V5	S0, S2	Optional	Supports OTA firmware updates and version validation.
Thermostat Operating State	0x42	V2	S0, S2	Optional	Reports real-time HVAC operating state

Basic Command Classes

Basic Set Mapping Behavior

BASIC_SET		THERMOSTAT_MODE_SET
Value	Mode	Value
0x00	OFF	0x00
0xFF	AUTO	0x03
0x01 - 0x63	AUTO	0x03

Basic Get / Basic Report Mapping Behavior

BASIC_SET		THERMOSTAT_MODE_REPORT
Value	Mode	Value
0x00	OFF	0x00
0xFF	HEAT / COOL / AUTO / Aux	0x03

Indicator Command Class

The thermostat LCD backlight will flash according to the indicator set command received from the hub.

INDICATOR ID	PROPERTY ID
0x50 (NODE IDENTIFY)	0x03 (ON OFF PERIOD)
0x50 (NODE IDENTIFY)	0x04 (ON OFF CYCLES)

Association Groups

GROUP ID	NAME	MAX NODES	DESCRIPTION	SUPPORTED COMMAND CLASSES
1	Lifeline	1	Used to report essential device information to the primary controller, including status changes and notifications	Battery Report (0x80)
				Thermostat Mode Report (0x40)
				Thermostat Setpoint Report (0x43)
				Device Reset Locally (0x5A)
				Indicator Report (0x87)
				Multilevel Sensor Report (0x31)
				Thermostat Operating State (0x42)

Interoperability Statement

The Thermostat DT has been designed and tested to ensure full interoperability with other certified Z-Wave devices and controllers in accordance with the Z-Wave Plus v2 Certification Program.

Warnings

INSTALLER INFORMATION

FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING THIS CONTROL COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE



WARNING

FOR CALIFORNIA RESIDENTS: WARNING:

This product contains a chemical known to the state of California to cause cancer and birth defects and other reproductive harm.



WARNING

VOLTAGE REQUIREMENTS

Do not use on circuits exceeding specified voltage. Higher voltage will damage control and could cause shock or fire hazard.

Thermostat installation and all components of the control system shall conform to Class II circuits per the NEC code.

ATTENTION: MERCURY NOTICE

This product does not contain mercury. However, this product may replace a product that contains mercury. Mercury and products containing mercury must not be discarded in household trash. Refer to **thermostat-recycle.org** for a location to send products containing mercury.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF Exposure

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter and must be installed to provide a separation distance of at least 20cm from all persons.

The FCC grant can be found under the Display Grant section of <http://www.fcc.gov/oet/fccid> after searching on FCC ID: 2A4JN-1F76U22Z.

IC Notice

This device complies with Innovation, Science and Economic Development Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This Class B digital apparatus complies with Canadian ICES-003.

IC: 28229-1F76U22Z

IC Radiation Exposure Statement

This device complies with IC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the IC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm during normal operation.

Avis IC

Cet appareil est conforme à la (aux) norme(s) RSS exemptée(s) de licence d'Innovation, Sciences et Développement économique Canada. Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférences, et (2) cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

Cet appareil numérique de classe B est conforme à la norme canadienne ICES-003.

IC : 28229-1F76U22ZIC

Déclaration d'exposition aux radiations

Cet appareil est conforme aux limites d'exposition aux radiations fixées par l'IC pour un environnement non contrôlé. Afin d'éviter la possibilité de dépasser les limites d'exposition aux radiofréquences de l'IC, la proximité humaine de l'antenne ne doit pas être inférieure à 20 cm pendant le fonctionnement normal de l'appareil.

FCC Regulations

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

sensi
by **COPELAND**

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